

Kauffman Foundation Research Series:
Firm Formation and Economic Growth

High-Growth Firms and the Future of the American Economy

March 2010



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Abstract

Into early 2010, more than two years after the recession began, the American economy continues to send out mixed signals with respect to economic recovery: GDP growth looks set to recover, while unemployment is projected to remain high for many more years. The most important economic matter facing the country is job creation, not only in terms of employment itself but also for boosting sectors such as housing, which will not fully recover until job creation recovers.

Discussions about jump-starting the U.S. economy—both from policymakers and pundits—primarily focus on measures that would expand job growth in existing companies. This report, the third in the Kauffman Foundation Research Series on Firm Formation and Economic Growth, draws on a new set of data, a special tabulation conducted by the Census Bureau at the request of the Ewing Marion Kauffman Foundation, calculated from the *Business Dynamics Statistics* (BDS) database.

While previous research has emphasized the importance of new and young companies to job creation overall, this paper focuses on *high-growth firms*—the so-called “gazelles” that, despite their relatively small numbers, nonetheless account for a disproportionate share of job creation.

The data generally show that:

- In any given year, the top-performing 1 percent of firms generate roughly 40 percent of new job creation.
- Fast-growing young firms, comprising less than 1 percent of all companies, generate roughly 10 percent of new jobs in any given year.

This paper examines the relevance of these points in the national discussion on job creation. When the current conversation turns to small business as an instigator in economic growth, it still emphasizes existing firms. But a new discussion—one that not only promotes entrepreneurship, but, specifically, *high-growth* entrepreneurship—is necessary, because top-performing companies are the most fruitful source of new jobs and offer the economy's best hope for recovery.

Finally, this paper recommends strategies policymakers could follow to facilitate the creation

and growth of more gazelle companies:

- Remove barriers that potentially block the emergence of high-growth companies.
- Focus on taxation, regulation, immigration, access to capital, and academic commercialization.
- Target immigrant entrepreneurs and universities, which may be likely sources for high-growth firms.

Introduction

In the near term, over the next several quarters and next few years, the United States economy will recover from the Great Recession of 2007–2009. Or, at least, the headline statistics will indicate recovery. Gross domestic product will grow by perhaps 3 percent to 4 percent per year (if we're lucky); industrial production will expand; consumer confidence will continue to rise; and corporate profitability will return.

On a longer time horizon, however, beneath these aggregate measures—out there in the “real” economy lived and made manifest by millions of individuals—economic health may not be so quick to return. The unemployment rate peaked at 10.2 percent in 2009 and already had fallen to 9.7 percent by early 2010, but according to even optimistic projections, unemployment is forecast to remain above 9 percent into 2011 and to then only gradually decline to 5 percent by 2020.¹ Yet this assumes a pace of new job creation that is quite high by historical levels—the U.S. economy must create new jobs for not only the millions of currently unemployed people but also those who will newly enter the labor force each year. American colleges and universities have taken in the largest entering classes in history in the last two years, which means that by 2014 and 2015, we will see huge numbers of new graduates looking for jobs.

In addition to unemployed workers, the United States economy currently suffers from a historically high “underemployment” rate—those who have lost their jobs plus people whose hours have been involuntarily reduced. These don't include, moreover, those who have given up looking for work and effectively dropped out of the labor force:

1. See Council of Economic Advisors, *Economic Report of the President 2010*, at <http://www.gpoaccess.gov/eop/index.html>.

The overall labor force participation rate and the number of hours worked each week have fallen steeply in the last two years. Many communities will continue to suffer from an overhang of housing supply, which will discourage new home construction in some places. Existing home sales are one indicator economists and policymakers use to gauge macroeconomic conditions, but for long-term economic growth, what matters more is residential investment—that is, new home construction. What determines the level of new home construction is the supply of existing homes (because of their effect on prices) and the formation of new households—new families often need new houses. Yet what determines the pace of family formation is, fundamentally, the creation of new jobs. Currently, we have high unemployment and a historic low in new housing starts (see Figure 1).

Perhaps most worrying, the lingering effects of sustained unemployment and a sluggish housing market will vary by geography and demography. Those areas of the country that saw the biggest housing excesses may suffer the most from vacancies and low residential investment.

Demographically, the pain of unemployment has been very uneven across the country—those hardest-hit were already at the low end of the income spectrum (see Figure 2), and we could see potentially negative effects from poor employment prospects among the young and educated cohort that only recently entered the labor market.

There are, of course, some reasons for optimism. The steep rise in unemployment has led some to anticipate an equally sharp bounce back in employment over the next few years, reducing the unemployment rate far faster than expected.

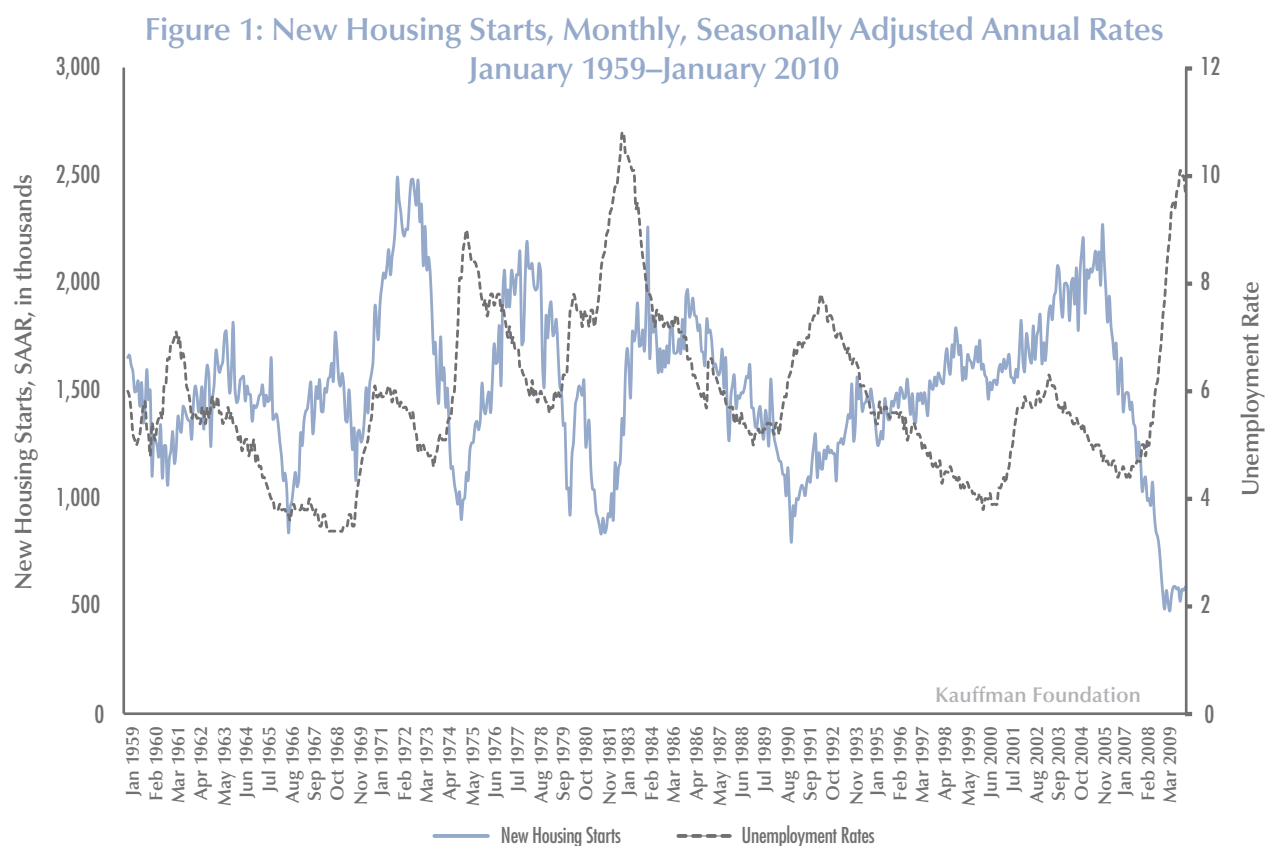


Figure 1. Source: United States Census Bureau, at http://www.census.gov/const/www/newresconstindex_excel.html; Bureau of Labor Statistics, www.bls.gov.

All those companies that laid workers off at such a torrid pace may find that they overreacted. The manufacturing sector has shown signs of life in recent months and, with potentially rising demand in countries like China and India, some expect American manufacturing to enjoy somewhat of a renaissance in the coming years. At the same time, however, productivity has been remarkably high, prompting concern that American companies are doing just fine without adding additional workers. And, optimism over employment prospects ignores the potentially long-term costs, both economic and social, of sustained unemployment.²

One of the most important issues facing the United States, then, is how to create new jobs. In a previous paper, we asked “Where will the jobs come from?” and answered it by pointing to the historic track record of new and young companies in job creation.³ The U.S. economy has enjoyed positive rates of new job creation for the past thirty years largely because of the steady pace at which new

firms come into existence. Large, established companies, of course, do hire people, but much of the gross hiring among these companies is accompanied by equivalent levels of gross firing, which means the net creation of new jobs among these companies is usually zero.

But highlighting, in the aggregate, the importance of new and young firms (ages five and younger) relative to older companies excludes part of the real story about job creation. New and young firms, while they are prolific job creators, are also quite adept at destroying jobs. The flow of jobs through these firms is quite rapid, so part of the reason we see positive net rates of job creation among this business demographic is the sheer volume of new and young companies. We need to keep starting companies or, evidently, we won’t create enough new jobs.

Unavoidably, a catch-all statistic about job creation in young firms—no matter how it compares to

Figure 2: Unemployment and Underemployment by Income, Fourth Quarter 2009

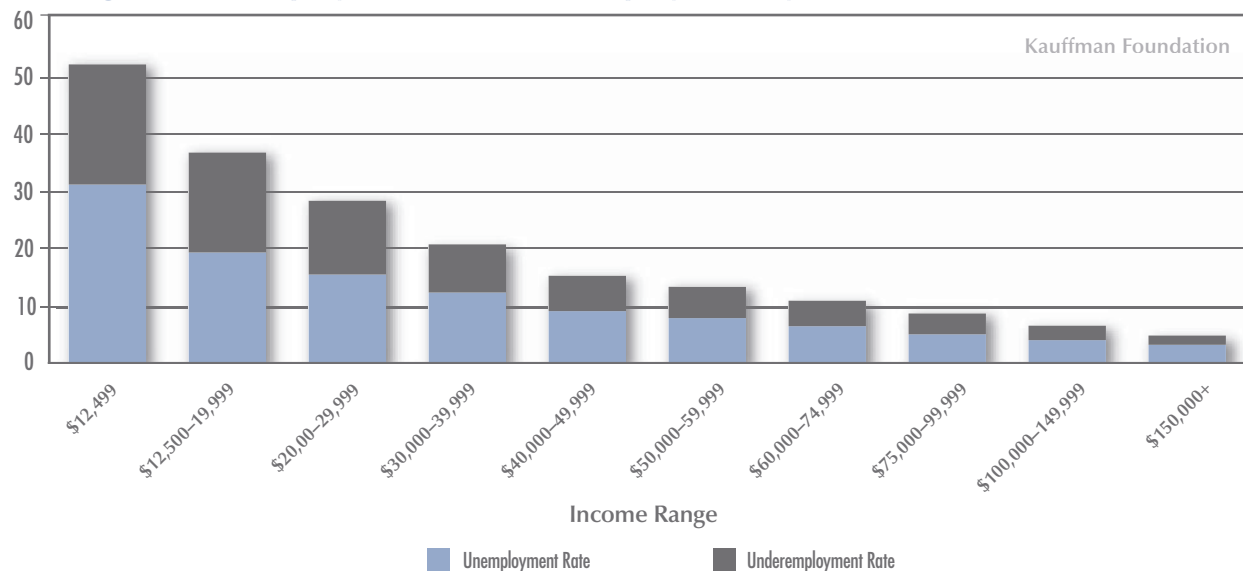


Figure 2. Source: Andrew Sum, et al, “Labor Underutilization Problems of U.S. Workers Across Household Income Groups at the End of the Great Recession: A Truly Great Depression Among the Nation’s Low Income Workers Amidst Full Employment Among the Most Affluent,” Center for Labor Market Studies, Northeastern University, February 2010, at http://www.clms.neu.edu/publication/documents/Labor_Underutilization_Problems_of_U.pdf.

2. See, e.g., Don Peck, *How a New Jobless Era Will Transform America*, *The Atlantic*, March 2010, at <http://www.theatlantic.com/doc/print/201003/jobless-america-future>.

3. See Dane Stangler and Robert E. Litan, “Where Will the Jobs Come From?” Kauffman Foundation, November 2009, at http://www.kauffman.org/uploadedFiles/where_will_the_jobs_come_from.pdf.

Figure 3: Number of Top 5 Percent Growing Firms, by Age

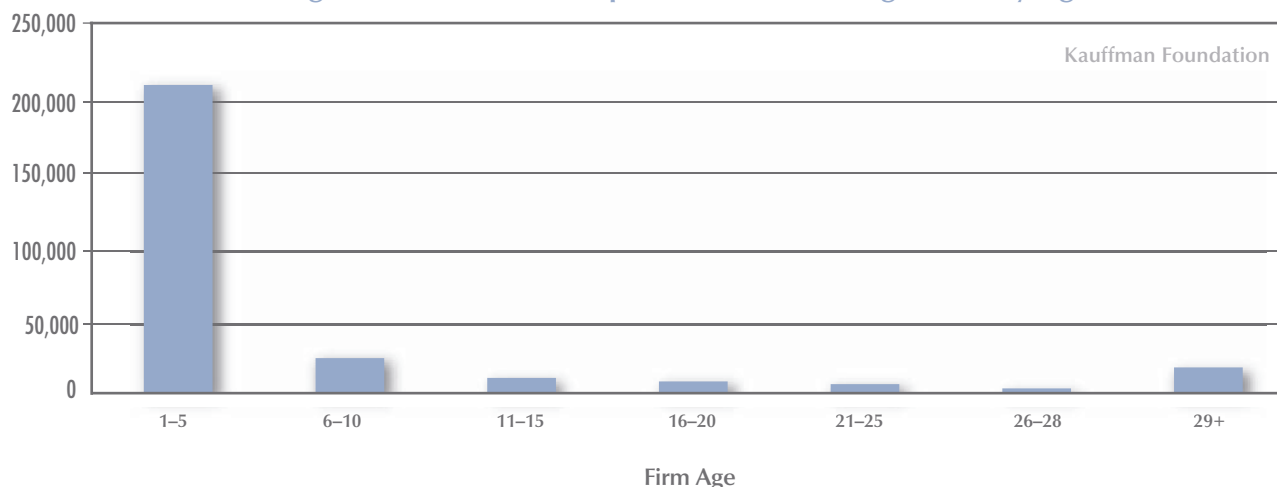


Figure 3. Source: Special Tabulation by U.S. Census Bureau based on Business Dynamics Statistics (hereinafter Special Tabulation).

existing companies—throws all young firms together. Some will grow slowly, others quite rapidly; some, moreover, won't achieve growth of any speed until well after age five. Buried within the universe of companies are those firms that occasionally break away from the pack and create an extraordinary number of jobs. These outperforming companies—high-growth firms or “gazelles”—account for a disproportionate share of job creation in any given year. Just 1 percent of companies—those growing the fastest—generate roughly 40 percent of new jobs in any given year. Most of these, not surprisingly, are young—the fastest-growing young firms (between the ages of three and five) account for *less than 1 percent of all companies in the economy, yet generate 10 percent of new jobs each year*. It might make sense, then, that policymakers casting worried glances at unemployment projections might seek to somehow create more high-growth firms in the United States.

The Contributions of High-Growth Firms to the Economy

Recent data analysis from the U.S. Census Bureau highlights the importance of high-growth companies. In a special tabulation conducted at the

request of the Kauffman Foundation, researchers parsed out the contribution of top-performing companies in recent years. Their general finding can be summarized as: Fast-growing firms account for a disproportionate share of net job creation, and these firms are mostly young.

In 2007, the U.S. economy contained 5.5 million firms. About half a million of these were brand new (age zero, that is); another two million, or just over one-third, were five years old or younger. Some companies were expanding, some contracting, some standing still. By and large, job creation (about two-thirds) came from young firms, many of which were small and never got much bigger. Only a small number of firms, moreover, creates a disproportionate share of such additional jobs; these are the top-performing firms. *For example, the top 5 percent of companies (measured by employment growth), or about 273,000 firms, creates two-thirds of new jobs in any given year. The top 1 percent of companies (about 55,000), generate 40 percent of new jobs in any given year.*

These are impressive numbers: A relative handful of companies account for a large share of new jobs. Importantly, however, many of the jobs created by these fast-growing firms will disappear. Most of the companies in the top 5 percent and top 1 percent are young—see Figure 3—and so susceptible to failure even if they've been creating jobs. Failure

should not be seen as a universally negative outcome because it is part and parcel of economic dynamism. But it should be noted that promoting high-growth companies will not guarantee the creation of sustainable firms. Think of a high-turnover location near you: a location where, over and over again, a new restaurant or retail outlet goes in every three years or so. When the business opens, it adds, say, two dozen new jobs to the economy that did not previously exist (although part of the gain could be offset by the loss of a job elsewhere). This process is repeated several thousand times across the economy. Three or four years later, however, the business fails and the jobs disappear. A once high-growth firm is no more, and the process is experienced repeatedly across the economy. And, the very next year, a new business opens in that location ...

The firms among the top 5 percent and top 1 percent are young. They start small but, if they are rapidly adding jobs, they should grow to a somewhat larger size—the “average” firm in the top 1 percent contributes eighty-eight jobs per year. As can be seen in Figure 4, the large majority of these companies end up with somewhere between twenty and 249 employees. The average firm in the economy as a whole adds two or three net new jobs per year, so high-growth companies are far outperforming others. Their growth has a ceiling

however: On average, they maintain that pace for one or two, maybe three, years. This growth is no less real, and the jobs are genuine, but high-growth firms are clearly concentrated in time. They seem to embody Jack London’s philosophy of life: “I would rather be ashes than dust! I would rather that my spark should burn out in a brilliant blaze than it should be stifled by dry-rot. I would rather be a superb meteor, every atom of me in magnificent glow, than a sleepy and permanent planet.”

Another point to notice in Figure 4 is that several thousand of these fast-growing companies—of any age—grow to substantial size, employing 2,000, 5,000, or more than 10,000 people. These super high-growth firms become scale firms, the next generation of iconic companies. There is an irony here, of course—entrepreneurial companies becoming the established firms of tomorrow—that should not be lost on policymakers concerned with promoting economic dynamism.

The Census data allow us to dig into another dimension of high growth: fast-growing young firms. This group of companies (three to five years old) numbered around 42,000 in 2007 (0.8 percent of all firms) and generates about 10 percent of new jobs in any given year. On average, fast-growing young companies create about twenty-seven jobs per year, with most growing to a size of about twenty to ninety-nine employees (Figure 5).

Figure 4: Number of Top 1 Percent Performing Firms by Size

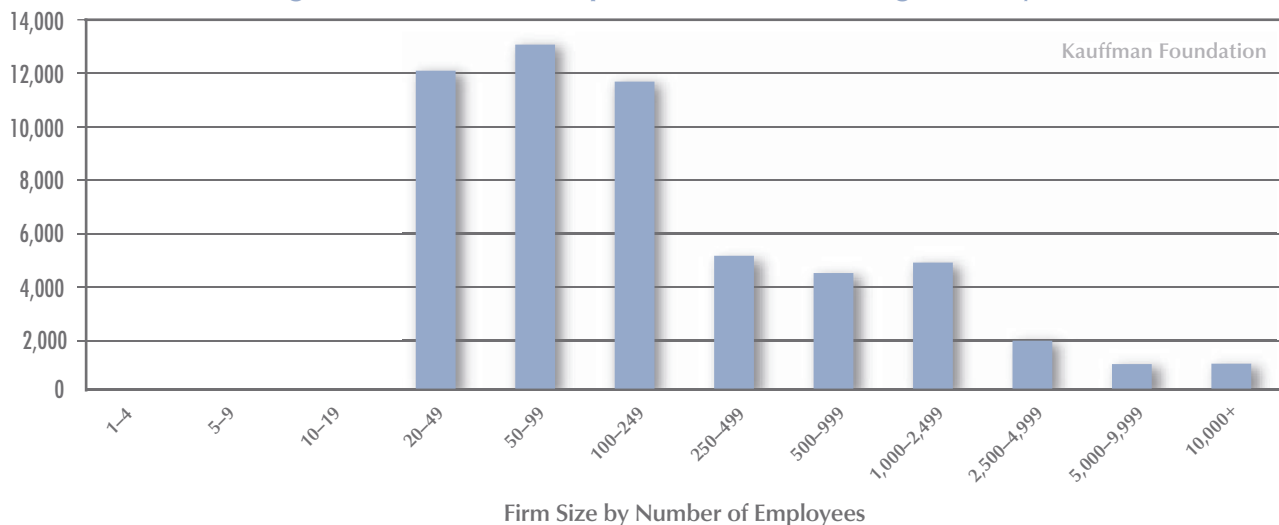


Figure 4. Source: Special Tabulation.

Figure 5: Number of High-Growth Young Firms, by Size

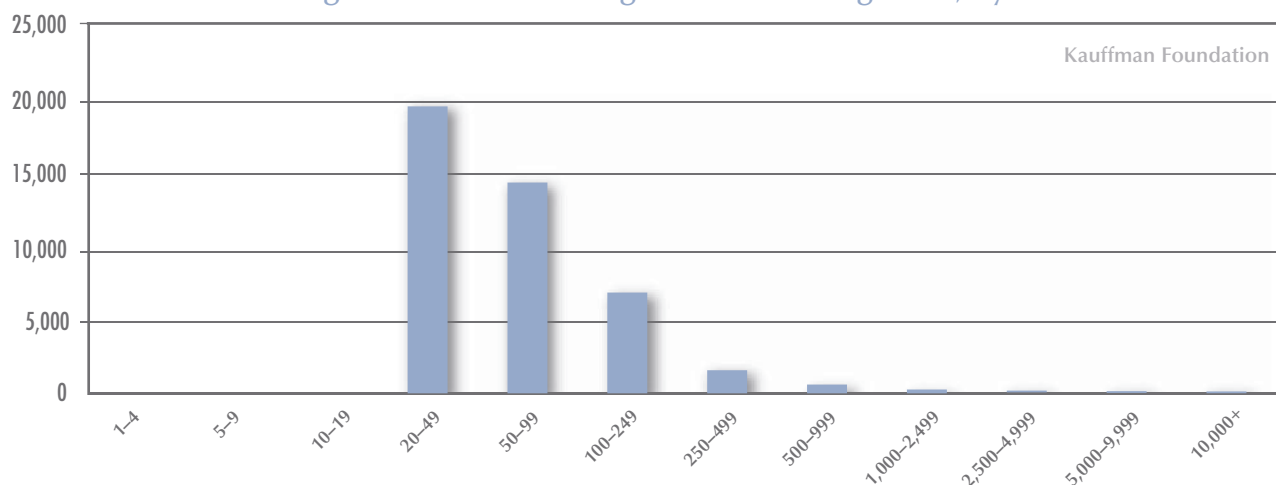


Figure 5. Source: Special Tabulation.

This, again, is a considerable contribution, but a quick comparison of Figures 4 and 5 reveals that, while firms age six and older represent only one-quarter of the top 1 percent of firms (13,000 out of 55,000), these “older” firms disproportionately account for the larger-sized high-growth cohort in Figure 4. Very few young high-growth firms in Figure 5 grow to extraordinary size. Part of this is simply a matter of physical limits: For a young firm to reach 10,000 employees in five years requires astounding (and astoundingly rare) growth. But it serves as a reminder that the world of new and young firms is not necessarily coterminous with that of high-growth companies.

Dynamic Accumulation

The nexus of firm age, size, and rapid growth highlights the rolling dynamism that characterizes the economy: some fast-growing young firms (those aged three to five) will continue on that growth trajectory and enjoy rising revenues and employment growth for several more years. (Thus, they will show up in the data as older and larger firms even though they may have been growing since age two.) High-growth companies are a moving target for research and for policy, and a snapshot will only capture part of the picture. This may only slightly complicate

research efforts to capture high-growth companies, but it greatly complicates policymaking: Policies aimed at somehow making companies of the high-growth variety will necessarily be a blunt and static instrument acting on a dynamic target.

Every year, roughly half a million new firms are started in the United States; not all of these will survive, of course, and survival rates across time are remarkably stable.⁴ In the first two years, roughly a third of these companies will fail and, in five years, just under half (48 percent) will remain.

Starting from a base year of zero, by the fifth year we will have two million firms younger than five years old—of these, around 809,000 will be between the ages of three and five.⁵ According to Census data, the top-performing cohort of this group (43,000 firms) accounts for 10 percent of overall net job creation in the economy. This is not a static figure, as each year means more new firms come into existence, more young firms are operating, and a steady number of fast-growing companies are creating jobs. High-growth firms, that is, accumulate over time, continuously adding new jobs, subtracting old jobs, and challenging incumbent companies. The firms that survive and grow more than make up for the companies that fail. Furthermore, in any given year, the cohort of

4. Partly a function of the relatively constant number of new companies started. See note 13, *infra*.

5. The number of young firms accumulates each year: 500,000 in year zero, joined by 500,000 in year one, but missing the 20 percent of year zero firms that did not survive, and so on.

Figure 6: Average Survival of New Businesses, 1977–2001

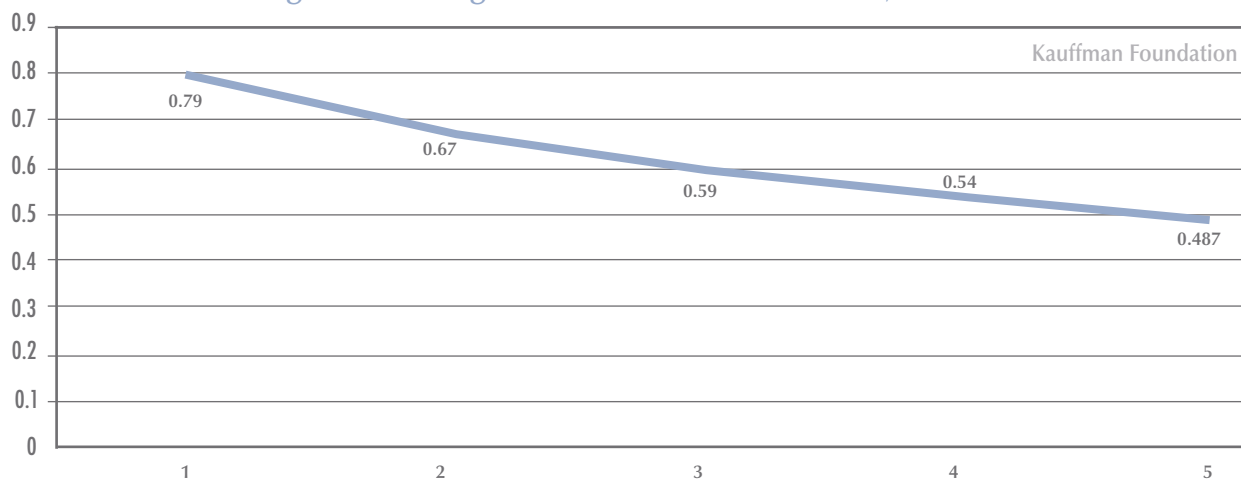


Figure 6. Source: Authors' calculations from Census Bureau, Business Dynamic Statistics, Firm Age Database, at http://www.ces.census.gov/index.php/bds/bds_database_list. The calculation of an "average" survival line across nearly thirty years of data does not mask much variation—the survival lines for firms founded in any given year are remarkably similar. See Dane Stangler, "The Economic Future Just Happened," Ewing Marion Kauffman Foundation, June 9, 2009, at <http://www.kauffman.org/uploadedFiles/the-economic-future-just-happened.pdf>.

young high-growth companies is joined by older firms that either grew continuously from a young age or suddenly began growing rapidly at an older age.⁶ This rolling dynamism consistently washes over the economy.

Some of those young firms that grow rapidly in their early years and sustain this pace as they get older will eventually become acquirers—they will add lots of jobs by purchasing younger companies. One prominent example is eBay, which began in 1995 with one employee, founder Pierre Omidyar. By 1998, eBay employed nearly 200 employees and then tripled its size the next year, to 640 employees. This was astounding growth, amounting to an average of 160 new employees per year. From there, its rapid job creation continued as it grew to 1,900 employees in 2000, 5,700 in 2003, and around 15,000 today. This is clearly the type of company envisioned by researchers and policymakers in search of gazelles, but one important thing to note about eBay's growth is that, at a very young age, it

became a company that grew in part through the acquisition of other companies, acquiring, for example, Half.com in 2000 and PayPal in 2002.⁷ PayPal itself had been the paragon of a gazelle firm, growing from six employees in its first year to around 500 at the time eBay acquired it. The fact that eBay's subsequent job growth relied partially on acquisitions of younger companies does not diminish its importance in terms of jobs and innovation. But it highlights the fact that companies defined as "gazelles" in the data do not always embody clear-cut cases of organic employment growth. There is little reason to favor "organic" or "acquired" growth either way: Employment and revenue growth through acquisition is no less important than organic growth because it facilitates the reallocation of resources to more productive uses.⁸ At most, we can say that both types of growth are economically important.⁹ The world of high-growth firms, like the economy as a whole, is wonderfully diverse.

6. See, e.g., David Thomson, *Blueprint to a Billion: 7 Essentials to Achieve Exponential Growth* (2005).

7. See <http://www.ebayinc.com/list/milestones>.

8. See, e.g., Magnus Henrekson and Dan Johansson, "Competencies and Institutions Fostering High-Growth Firms," Research Institute of Industrial Economics, Working Paper No. 757, June 2008, at <http://www.ifn.se/Wfiles/wp/wp757.pdf>.

9. Of course, one contention is that acquisitive companies, irrespective of age, act to stifle dynamism because they purchase potential competitors before they can really mount a challenge.

Figure 7: The Accumulation of High-Growth Firms

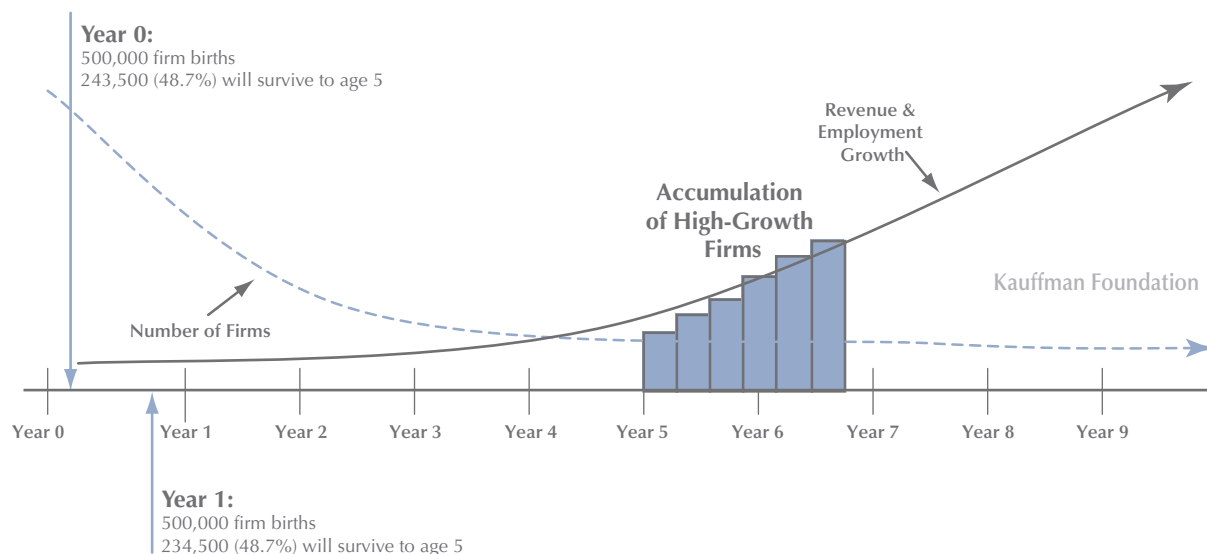


Figure 7. The Accumulation of High-Growth Firms.

What to Do?

The outstanding importance of high-growth firms is indeed compelling and thus makes an attractive target for policymakers seeking to spur job creation. There are basically three strategies policymakers could follow in seeking to generate more gazelles:

- Focus on creating more new firms, with the expectation that this also will increase, by simple arithmetic, the number of high-growth firms;
- Remove barriers that conceivably block the emergence of high-growth companies, including taxes and regulations;
- Target those areas of the economy that likely may be fertile sources for high-growth firms—namely, immigrants and universities.

The first option would be to somehow increase the number of companies started overall—more new companies logically could mean more high-growth companies. New company creation by itself, of course, is important for the economy because the

net increase in employment that results from startup firms is absolutely essential if the economy is to achieve positive net job creation in any given year. Without startups, in fact, net job creation in most years would be negative.¹⁰ Gazelles are important for job creation among the “continuing” population of firms, those over the age of one. Thus, simply increasing firm formation could increase job creation and increase the number of high-growth firms.¹¹ Since the level and rate of firm formation in the United States have basically been flat for twenty years, however, it’s not very clear how successful we can be in actually creating more new companies.¹²

It’s quite possible that this most recent recession will lead to more and more people starting companies as they give up on the prospect of regaining employment in existing firms. There is no guarantee that the population of potential entrepreneurs is homogenous, however, which means that simply starting more companies may not mean an automatic rise in high-growth firms.

10. See Dane Stangler and Robert E. Litan, “Where Will the Jobs Come From?” Kauffman Foundation, November 2009, at http://www.kauffman.org/uploadedFiles/where_will_the_jobs_come_from.pdf.

11. See, e.g., Magnus Henrekson and Dan Johansson, “Gazelles as Job Creators—A Survey and Interpretation of the Evidence,” Ratio Institute Working Paper No. 117 (October 2008), available at http://www.ratio.se/pdf/wp/mh_dj_gazelle.pdf.

12. See Dane Stangler and Paul Kedrosky, “Exploring Firm Formation: Why is the Number of New Firms Constant?” Kauffman Foundation, January 2010, at http://www.kauffman.org/uploadedFiles/exploring_firm_formation_1-13-10.pdf.

The second area of policy focus would be on the population of existing companies—perhaps there are barriers that prevent some potential high-growth firms from expanding. Access to capital, for example, might present an opportunity. While startup capital generally is found in the proverbial trio of family, friends, and fools, external capital becomes important for those companies seeking to expand.¹³ Growth is sometimes financed by outside sources, whether that means bank loans, lines of business credit, angel investors, government grants and loans, or venture capital. In some discussions of high-growth firms, an immediate reflex is to default to venture capital, the form of financing perhaps most closely associated with entrepreneurship. Unfortunately, while venture capital is important for the development and growth of certain firms, it doesn't appear to be universally important for creating high-growth companies. Of several hundred fast-growing companies on the *Inc.* list over the last decade, only 16 percent ever received a venture capital investment.¹⁴ Venture capital, moreover, is highly concentrated in just a few sectors and high-growth companies can be found in nearly every sector of the economy.¹⁵

Another dimension of what influences the growth of companies is taxation—capital gains, for example, represent an important payoff from building a high-growth company. Capital gains taxes, then, might be an area in which changes could be made to encourage the growth of more such firms. It seems slightly unlikely, however, that a company on the verge of a growth spurt (provided its leadership can anticipate the growth spurt) would somehow seek to restrain its growth because of the specter of paying capital gains taxes. Entrepreneurs, in fact, would seem to be happy to succeed so that they have to eventually worry about capital gains taxes. Given the already-complex and distorted tax code, of course, if the objective is to promote economic growth and job creation, broader tax changes rather

than slight tweaks aimed at specific classes of companies might be a better idea. A recent Milken Institute study, for example, finds that lowering corporate income tax rates and increasing the Research & Development tax credit will have large expansionary effects on the U.S. economy.¹⁶

In terms of the effect on future high-growth companies, even more important than taxation would seem to be the regulatory burden borne by firms. Fluidity across labor and product markets is essential if high-growth firms are, first, to emerge and, second, to productively allocate and organize resources. This is less of an issue in the United States than in some European countries, but the ability to hire and fire workers must be relatively unhampered.¹⁷ Threshold effects are important: If a new raft of more onerous regulations kicks in at certain levels of employment, this may discourage some companies from hiring beyond that threshold. Additionally, it should be obvious that regulatory burdens are easier to bear for larger, more established companies than for smaller and younger companies. Policies that sometimes are painted as “business-friendly” may, in fact, be market-unfriendly if they favor incumbents and discourage competition.

Likewise, the ability to close a firm—such as filing for bankruptcy—must be fluid. New companies and high-growth firms are extremely important to the economy, but their effect will be limited if underperforming or inefficient firms do not correspondingly shrink or fail. High growth is only one part of the equation: “A prerequisite for the growth of these firms is also that the process of creative destruction functions so that efficient new and expanding firms can attract resources from inefficient firms, resources that are released through contraction and exits. Without this dynamic reallocation, the growth of firms will be hampered, irrespective of their inherent growth potential.”¹⁸

13. See, e.g., Alicia M. Robb and David T. Robinson, “The Capital Structure Decisions of New Firms,” Kauffman Foundation, November 2008, at http://www.kauffman.org/uploadedFiles/Capital_Structure_Decisions_New_Firms.pdf.

14. See Paul Kedrosky, “Right-Sizing the U.S. Venture Capital Industry,” Kauffman Foundation, June 2009, at <http://www.kauffman.org/uploadedFiles/USVentCap061009r1.pdf>.

15. See, e.g., Zoltan J. Acs, William Parsons, and Spencer Tracy, “High-Impact Firms: Gazelles Revisited,” Small Business Administration, Office of Advocacy, June 2008, at <http://www.sba.gov/advo/research/rs328tot.pdf>.

16. See Ross DeVol and Perry Wong, “Jobs for America: Investments and Policies for Economic Growth and Competitiveness,” Milken Institute, January 2010.

17. “Experimentation and selection not only take place across firms, but also between workers and other key actors (notably entrepreneurs) whose productivity is only revealed in the course of working.” Magnus Henrekson and Dan Johansson, “Competencies and Institutions Fostering High-Growth Firms,” Research Institute of Industrial Economics, Working Paper No. 757, June 2008, at <http://www.ifn.se/Wfiles/wp/wp757.pdf>.

18. Magnus Henrekson and Dan Johansson, “Competencies and Institutions Fostering High-Growth Firms,” Research Institute of Industrial Economics, Working Paper No. 757, June 2008, at <http://www.ifn.se/Wfiles/wp/wp757.pdf>.

If it's accepted that economic growth proceeds through an evolutionary process of experimentation and selection, then the goal of any policies aimed at easing high-growth companies' emergence must focus, above all, on promoting a healthy market, which means entry, exit, and competition.

The final potential area of focus for policymakers might be those areas of the economy that have been known to produce high-growth firms but which, for one reason or another, suffer from bottlenecks. Two in particular that come to mind are immigration and universities. Immigrants have been hugely important to the United States for its entire history, but their role in new-firm creation has only recently come into specific focus. Research led by Vivek Wadhwa has found that, from 1995 to 2006, immigrants founded or co-founded roughly one-quarter of all technology and engineering companies in the United States—in Silicon Valley, it was a remarkable 50 percent.¹⁹ These companies have created thousands of jobs for Americans—by one very rough calculation, in fact, these immigrant-founded technology companies comprised only 0.3 percent of companies founded during this period but generated nearly 10 percent of jobs among existing companies.

Immigration, of course, is a political minefield and the Great Recession certainly will not make many people in the United States more welcoming to immigrants: Why, if unemployment is already high, would we promote bringing more competitors for the short supply of jobs? Such a reaction is understandably natural, but it frames the issue in precisely the wrong way. Many immigrants come to the United States and end up starting companies—they *make* jobs rather than *take* jobs. This is a virtually free source of job creation for the United States.²⁰ One policy option, then, would be to either establish a new visa program—an “entrepreneur’s visa”—or expand the existing EB-5 visa program for

immigrant investors to include those immigrants who intend to start firms.²¹ A new bill in the U.S. Senate, in fact, would establish a new visa for immigrants who can raise \$250,000 for their startup company. This positive step paves the way for future expansion to allow entry of immigrants with startup firms irrespective of the money raised.²²

Many immigrant entrepreneurs emerge from American research universities, where they obtain degrees in science and engineering. Higher education has been a remarkably fertile source of innovation over the last century and it continues to be so. And yet, American universities may not be realizing their full potential as sources of entrepreneurship. New firms have long emerged from the academy, taking discoveries from the university laboratory into the marketplace and creating many jobs along the way. Thirty years ago, Congress enacted the Bayh-Dole Act, which helped smooth the process of commercialization by providing incentives for university researchers to move their innovations into new companies. Today, however, while universities continue to be important sources of innovation, obstacles have grown up along the commercialization process that potentially impede the creation of startups and the products and services they might deliver to the wider economy.

Thus, there may be ways to break down these barriers and spur more university entrepreneurship. One option would be to allow faculty members to shop their discovery around to any technology transfer office around the country, rather than being mandated to use their own university's process, which is the current state of affairs.²³ Such a move would likely spur more competition among not only researchers but also universities to move more innovations into the marketplace. Such competition is potentially a better alternative to the closed system now in place.

19. See Vivek Wadhwa, Ben Rissing, AnnaLee Saxenian, and Gary Gereffi, “Education, Entrepreneurship, and Immigration: America’s New Immigrant Entrepreneurs, Part II,” Kauffman Foundation, June 2007.

20. See, e.g., Jennifer Hunt, “Which Immigrants are Most Innovative and Entrepreneurial: Distinctions by Entry Visa,” Centre for Economic Policy Research, Discussion Paper 7699, February 2010, at <http://www.cepr.org/pubs/new-dps/dplist.asp?dpno=7699> (finding, among other things, that immigrant students are more likely to start companies than native students are).

21. See Paul Kedrosky and Brad Feld, “Start-up Visas Can Jump-Start the Economy,” *Wall Street Journal*, December 2, 2009; Carl Schramm and Robert E. Litan, “A Policy Agenda for Scale Entrepreneurship and Growth,” *Wilson Quarterly*, forthcoming.

22. See, e.g., Robert E. Litan, “Visas for the Next Sergey Brin,” *Wall Street Journal*, March 8, 2010.

23. See Robert E. Litan and Lesa Mitchell, “A Faster Path from Lab to Market,” *Harvard Business Review*, January/February 2010.

Conclusion

The prevailing policy discussions around unemployment and job creation in the United States and elsewhere overwhelmingly focus on the recovery or restarting of job growth in existing companies. Because of their apparent dominance—in the public eye if not the real economy—large, established corporations are perceived by policymakers as the engines of innovation and job creation. Even the emphasis placed on “small business” defaults to those companies already in existence—measures aimed at expanding access to credit for small businesses assumes that the desired audience is currently established and operating. Mostly invisible on the radar screen are the new companies—the startups, the “nonemployer” firms that transition to employer companies, the spinoffs—that truly embody new job creation.

For this population of firms that doesn’t yet exist, we need a new national conversation, one that promotes not only entrepreneurship but also *high-growth* entrepreneurship. This goes well beyond simply saying the words or conflating them with small businesses. Policymakers and researchers can celebrate the data presented here and laud such entrepreneurs in the abstract. They might be much less comfortable, however, with reality. High-growth companies launch never-ending challenges to the status quo in every sector of the economy. They entail uncertainty and, in some cases, failure. But, high-growth firms represent the most fertile source of new job creation and, in many areas, the only way in which the economic future comes into being.

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